

# SEQUENCE LISTING

<110> Koide, Shohei

<120> ARTIFICIAL ANTIBODY POLYPEPTIDES

<130> 109.050US1

<150> US 60/217,474

<151> 2000-07-11

<160> 121

<170> FastSEQ for Windows Version 4.0

<210> 1

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<223> Anti-hen egg lysozyme (HEL) antibody.

<400> 1

Ala Arg Glu Arg Asp Tyr Arg Leu Asp Tyr Trp Gly Gln Gly  
1 5 10

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<223> An anti-HEL single VH domain termed VH8.

<400> 2

Ala Arg Gly Ala Val Val Ser Tyr Tyr Ala Met Asp Tyr Trp Gly Gln  
1 5 10 15  
Gly

<210> 3

<211> 16

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<213> Homo sapiens

<400> 3

Tyr Ala Val Thr Gly Arg Gly Asp Ser Pro Ala Ser Ser Lys Pro Ile  
1 5 10 15

<210> 4

<211> 12

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<223> Mutant D1.3-1.

<400> 4

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Tyr Ala Glu Arg Asp Tyr Arg Leu Asp Tyr Pro Ile  
1 5 10

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Tyr Ala Val Arg Asp Tyr Arg Ser Lys Pro Ile  
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<400> 9  
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<210> 11  
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cgggatccca tatgcaggtt tctgatgttc cgcgtgacct ggaagttggt gctgcgacc 59

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taactgcagg agcatcccag ctgatcagca ggctagtcgg ggtcgcagca acaac 55

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ctcctgcagt taccgtgcgt tattaccgta tcacgtacgg tgaaaccggt g 51

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aggaattcac tgtacctggt tccaagtcta ctgctaccat cagcgg 46

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<220>  
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<400> 18  
gtatagtcga caccgggttt caggccgctg atggtagc 38

<210> 19  
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cgggtgtcga ctataccatc actgtatacg ct 32

<210> 20  
<211> 55  
<212> DNA  
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<220>  
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<400> 20  
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<210> 21  
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cagcgagctc caagccaatc tcgattaact accgt 35

<210> 22  
<211> 37  
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<400> 22  
cgggatccctc gagttactag gtacggtagt taatcga 37

<210> 23  
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<400> 24  
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ccggaagctt taagactcct tattacgcag tatgttagc

39

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<400> 26

ctgttactgg ccgtgagatc taaccagcga gctcca

36

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<223> Oligonucleotide BC3.

<221> misc\_feature

<222> (1)...(51)

<223> n = A,T,C or G

<400> 27

gatcagctgg gatgctcctn nknknknkn knnktattac cgtatcacgt a

51

<210> 28

<211> 57

<212> DNA

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<223> Oligonucleotide FG2.

<221> misc\_feature

<222> (1)...(57)

<223> n = A,T,C or G

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tgtatacgct gttactggcn nknknknkn knnknknknk tccaagccaa tctcgat

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<210> 29

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<222> (1)...(47)  
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47

<210> 30  
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<220>  
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<221> misc\_feature  
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51

<210> 31  
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<220>  
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monobody clone 211.

<400> 31  
Cys Ala Arg Arg Ala  
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<220>  
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<400> 32  
Arg Trp Ile Pro Leu Ala Lys  
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monobody clone 212.

<400> 33  
Cys Trp Arg Arg Ala

1 5

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Arg Trp Val Gly Leu Ala Trp  
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monobody clone 213.

<400> 35

Cys Lys His Arg Arg  
1 5

<210> 36  
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monobody clone 213.

<400> 36

Phe Ala Asp Leu Trp Trp Arg  
1 5

<210> 37  
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<220>

<223> The sequence of the BC loop of ubiquitin-binding  
monobody clone 214.

<400> 37

Cys Arg Arg Gly Arg  
1 5

<210> 38  
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<220>  
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monobody clone 214.

<400> 38  
Arg Gly Phe Met Trp Leu Ser  
1 5

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<212> PRT  
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<220>  
<223> The sequence of the BC loop of ubiquitin-binding  
monobody clone 215.

<400> 39  
Cys Asn Trp Arg Arg  
1 5

<210> 40  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> The sequence of the FG loop of ubiquitin-binding  
monobody clone 215.

<400> 40  
Arg Ala Tyr Arg Tyr Arg Trp  
1 5

<210> 41  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> The sequence of the BC loop of ubiquitin-binding  
monobody clone 411.

<400> 41  
Ser Arg Leu Arg Arg  
1 5

<210> 42  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> The sequence of the FG loop of ubiquitin-binding  
monobody clone 411.

<400> 42  
Pro Pro Trp Arg Val

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1 5

<210> 43  
<211> 5  
<212> PRT  
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<220>  
<223> The sequence of the BC loop of ubiquitin-binding  
monobody clone 422.

<400> 43  
Ala Arg Trp Thr Leu  
1 5

<210> 44  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> The sequence of the FG loop of ubiquitin-binding  
monobody clone 422.

<400> 44  
Arg Arg Trp Trp Trp  
1 5

<210> 45  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> The sequence of the BC loop of ubiquitin-binding  
monobody clone 424.

<400> 45  
Gly Gln Arg Thr Phe  
1 5

<210> 46  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> The sequence of the FG loop of ubiquitin-binding  
monobody clone 424.

<400> 46  
Arg Arg Trp Trp Ala  
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<210> 47  
<211> 5  
<212> PRT  
<213> Unknown

<220>  
 <223> The sequence of the BC loop of WT from library #2.  
 <400> 47  
 Ala Val Thr Val Arg  
 1 5  
 <210> 48  
 <211> 7  
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 <213> Unknown

<220>  
 <223> The sequence of the FG loop of WT from library #2.  
 <400> 48  
 Arg Gly Asp Ser Pro Ala Ser  
 1 5  
 <210> 49  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
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 <400> 49  
 Cys Asn Trp Arg Arg  
 1 5  
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 <211> 7  
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<220>  
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 <400> 50  
 Arg Ala Tyr Arg Tyr Arg Trp  
 1 5  
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<220>  
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 <400> 51  
 Cys Met Trp Arg Ala  
 1 5  
 <210> 52  
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<223> The sequence of the FG loop of clone pLB24.2.

<400> 52

Arg Trp Gly Met Leu Arg Arg

1 5

<210> 53

<211> 5

<212> PRT

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<223> The sequence of the BC loop of clone pLB24.3.

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Ala Arg Met Arg Glu

1 5

<210> 54

<211> 7

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<223> The sequence of the FG loop of clone pLB24.3.

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Arg Trp Leu Arg Gly Arg Tyr

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<210> 55

<211> 5

<212> PRT

<213> QArtificial Sequence

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<223> The sequence of the BC loop of clone pLB24.4.

<400> 55

Cys Ala Arg Arg Arg

1 5

<210> 56

<211> 7

<212> PRT

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<220>

<223> The sequence of the FG loop of clone pLB24.4.

<400> 56

Arg Arg Ala Gly Trp Gly Trp

1 5

<210> 57

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<211> 5  
 <212> PRT  
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 <220>  
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 Cys Asn Trp Arg Arg  
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 <400> 58  
 Arg Ala Tyr Arg Tyr Arg Trp  
 1 5  
  
 <210> 59  
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 <213> Artificial Sequence  
  
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 <223> The sequence of the BC loop of clone pLB24.6.  
  
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 Arg Trp Arg Glu Arg  
 1 5  
  
 <210> 60  
 <211> 7  
 <212> PRT  
 <213> Artificial Sequence  
  
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 Arg His Pro Trp Thr Glu Arg  
 1 5  
  
 <210> 61  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
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 <223> The sequence of the BC loop of clone pLB24.7.  
  
 <400> 61  
 Cys Asn Trp Arg Arg  
 1 5

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<210> 62  
<211> 7  
<212> PRT  
<213> Artificial Sequence

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Arg Ala Tyr Arg Tyr Arg Trp  
1 5

<210> 63  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> The sequence of the BC loop of clone pLB24.8.

<400> 63  
Glu Arg Arg Val Pro  
1 5

<210> 64  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
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<400> 64  
Arg Leu Leu Leu Trp Gln Arg  
1 5

<210> 65  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> The sequence of the BC loop of clone pLB24.9.

<400> 65  
Gly Arg Gly Ala Gly  
1 5

<210> 66  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> The sequence of the FG loop of clone pLB24.9.

<400> 66  
Phe Gly Ser Phe Glu Arg Arg

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<220>  
<223> The sequence of the BC loop of clone pLB24.11.

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<210> 68
<211> 7
<212> PRT
<213> Artificial Sequence
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<400> 68  
Arg Arg Trp Phe Asp Gly Ala  
1 5

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<210> 69
<211> 5
<212> PRT
<213> Artificial Sequence
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<220>  
<223> The sequence of the BC loop of clone pLB24.12.

<400> 69  
Cys Asn Trp Arg Arg  
1 5

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<210> 70
<211> 7
<212> PRT
<213> Artificial Sequence
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<220>  
<223> The sequence of the FG loop of clone pLB24.12.

<400> 70  
Arg Ala Tyr Arg Tyr Arg Trp  
1 5

```
<210> 71
<211> 5
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<213> Unknown
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<220>
<223> The sequence of the BC loop of WT from library #4.
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<400> 71  
Ala Val Thr Val Arg  
1 5

<210> 72  
<211> 5  
<212> PRT  
<213> Unknown

<220>  
<223> The sequence of the FG loop of WT from library #4.

<400> 72  
Gly Arg Gly Asp Ser  
1 5

<210> 73  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> The sequence of the BC loop of clone pLB25.1.

<400> 73  
Gly Gln Arg Thr Phe  
1 5

<210> 74  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> The sequence of the FG loop of clone pLB25.1.

<400> 74  
Arg Arg Trp Trp Ala  
1 5

<210> 75  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> The sequence of the BC loop of clone pLB25.2.

<400> 75  
Gly Gln Arg Thr Phe  
1 5

<210> 76  
<211> 5  
<212> PRT  
<213> Artificial Sequence

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<223> The sequence of the FG loop of clone pLB25.2.

<400> 76

Arg Arg Trp Trp Ala

1 5

<210> 77

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> The sequence of the BC loop of clone pLB25.3.

<400> 77

Gly Gln Arg Thr Phe

1 5

<210> 78

<211> 5

<212> PRT

<213> Artificial Sequence

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<223> The sequence of the FG loop of clone pLB25.3.

<400> 78

Arg Arg Trp Trp Ala

1 5

<210> 79

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> The sequence of the BC loop of clone pLB25.4.

<400> 79

Leu Arg Tyr Arg Ser

1 5

<210> 80

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> The sequence of the FG loop of clone pLB25.4.

<400> 80

Gly Trp Arg Trp Arg

1 5

<210> 81

<211> 5

<212> PRT

<213> Artificial Sequence

<220>  
 <223> The sequence of the BC loop of clone pLB25.5.  
  
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 Gly Gln Arg Thr Phe  
 1 5  
  
 <210> 82  
 <211> 5  
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 <213> Artificial Sequence  
  
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 <223> The sequence of the FG loop of clone pLB25.5.  
  
 <400> 82  
 Arg Arg Trp Trp Ala  
 1 5  
  
 <210> 83  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
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 <223> The sequence of the BC loop of clone pLB25.6.  
  
 <400> 83  
 Gly Gln Arg Thr Phe  
 1 5  
  
 <210> 84  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
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 <223> The sequence of the FG loop of clone pLB25.6.  
  
 <400> 84  
 Arg Arg Trp Trp Ala  
 1 5  
  
 <210> 85  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
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 <223> The sequence of the BC loop of clone pLB25.7.  
  
 <400> 85  
 Leu Arg Tyr Arg Ser  
 1 5  
  
 <210> 86  
 <211> 5  
 <212> PRT

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<213> Artificial Sequence

<220>

<223> The sequence of the FG loop of clone pLB25.7.

<400> 86

Gly Trp Arg Trp Arg

1 5

<210> 87

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> The sequence of the BC loop of clone pLB25.9.

<400> 87

Leu Arg Tyr Arg Ser

1 5

<210> 88

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> The sequence of the FG loop of clone pLB25.9.

<400> 88

Gly Trp Arg Trp Arg

1 5

<210> 89

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> The sequence of the BC loop of clone pLB25.11.

<400> 89

Gly Gln Arg Thr Phe

1 5

<210> 90

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> The sequence of the FG loop of clone pLB25.11.

<400> 90

Arg Arg Trp Trp Ala

1 5

<210> 91

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<211> 5  
 <212> PRT  
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<220>  
 <223> The sequence of the BC loop of clone pLB25.12.

<400> 91  
 Leu Arg Tyr Arg Ser  
 1 5

<210> 92  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> The sequence of the FG loop of clone pLB25.12.

<400> 92  
 Gly Trp Arg Trp Arg  
 1 5

<210> 93  
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<400> 93  
 gcagttaccg tgcgt

15

<210> 94  
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 <212> PRT  
 <213> Unknown

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<400> 94  
 Ala Val Thr Val Arg  
 1 5

<210> 95  
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<220>  
 <223> The sequence of the FG loop of WT from Table 7.

<400> 95  
 ggccgtggtg acagcccagc gagg

24

<210> 96

<211> 8  
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<220>

<223> The sequence of the FG loop of WT from Table 7.

<400> 96

Gly Arg Gly Asp Ser Pro Ala Ser  
1 5

<210> 97

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> The sequence of the BC loop of clone 1 from Table 7.

<400> 97

tcgaggttgc ggcgg

15

<210> 98

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> The sequence of the BC loop of clone 1 from Table 7.

<400> 98

Ser Arg Leu Arg Arg  
1 5

<210> 99

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> The sequence of the FG loop of clone 1 from Table 7.

<400> 99

ccgccgtgga gggtg

15

<210> 100

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> The sequence of the FG loop of clone 1 from Table 7.

<400> 100

Pro Pro Trp Arg Val  
1 5

<210> 101  
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<212> DNA  
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<223> The sequence of the BC loop of clone 2 from Table  
7.

<400> 101  
ggtcagcgaa ctttt

15

<210> 102  
<211> 5  
<212> PRT  
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<220>  
<223> The sequence of the BC loop of clone 2 from Table  
7.

<400> 102  
Gly Gln Arg Thr Phe  
1 5

<210> 103  
<211> 15  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> The sequence of the FG loop of clone 2 from Table  
7.

<400> 103  
aggcgggtggt gggct

15

<210> 104  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> The sequence of the FG loop of clone 2 from Table  
7.

<400> 104  
Arg Arg Trp Trp Ala  
1 5

<210> 105  
<211> 15  
<212> DNA  
<213> Artificial Sequence

<220>

<223> The sequence of the BC loop of clone 3 from Table 7.

<400> 105

gcgaggtgga cgctt

15

<210> 106

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> The sequence of the BC loop of clone 3 from Table 7.

<400> 106

Ala Arg Trp Thr Leu

1

5

<210> 107

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> The sequence of the FG loop of clone 3 from Table 7.

<400> 107

aggcgggtggt ggtgg

15

<210> 108

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> The sequence of the FG loop of clone 3 from Table 7.

<400> 108

Arg Arg Trp Trp Trp

1

5

<210> 109

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> A solubility tail.

<400> 109

Gly Lys Lys Gly Lys

1

5

<210> 110

<211> 96  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> The synthetic Fn3 gene.

<400> 110  
 Met Gln Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr  
 1 5 10 15  
 Pro Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg  
 20 25 30  
 Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln  
 35 40 45  
 Glu Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu  
 50 55 60  
 Lys Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg  
 65 70 75 80  
 Gly Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr  
 85 90 95

<210> 111  
 <211> 308  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> The designed Fn3 gene.

<400> 111  
 catatgcagg tttctgatgt tccgcgtgac ctggaagttg ttgctgcgac cccgactagc 60  
 ctgctgatca gctgggatgc tcctgcagtt accgtgcgtt attaccgtat cacgtacggt 120  
 gaaaccggtg gtaactcccc gggttcaggaa ttcactgtac ctgggttccaa gtctactgct 180  
 accatcagcg gcctgaaacc gggtgtcgac tataccatca ctgtatacgc tgttactggc 240  
 cgtggtgaca gcccagcgag ctccaagcca atctcgatta actaccgtac ctagtaactc 300  
 gaggatcc 308

<210> 112  
 <211> 96  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> The designed Fn3 gene.

<400> 112  
 Met Gln Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr  
 1 5 10 15  
 Pro Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg  
 20 25 30  
 Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln  
 35 40 45  
 Glu Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu  
 50 55 60  
 Lys Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg  
 65 70 75 80  
 Gly Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr  
 85 90 95



**SECRET**

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<211> 20

<213> Artificial Sequence

<223> A fusion protein.

Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro  
1 5 10 15  
Arg Gly Ser His  
20

<211> 10

<213> Artificial Sequence

<223> A sequence from clone Plb25.1.

Gly Gln Arg Thr Phe Arg Arg Trp Trp Ala  
1 5 10

<211> 10

<213> Artificial Sequence

<223> A sequence from clone Plb25.4.

Leu Arg Tyr Arg Ser Gly Trp Arg Trp Arg  
1 5 10

<211> 12

### <213> Artificial Sequence

<223> A sequence from clone pLB24.1.

Cys Asn Trp Arg Arg Arg Ala Tyr Arg Tyr Trp Arg  
1 5 10

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> A sequence from clone pLB24.3.

<400> 118

Ala Arg Met Arg Glu Arg Trp Leu Arg Gly Arg Tyr  
1 5 10

<210> 119

<211> 4

<212> PRT

<213> Homo sapiens

<400> 119

Glu Ile Asp Lys  
1

<210> 120

<211> 4

<212> PRT

<213> Unknown

<220>

<223> Anti-hen egg lysozyme (HEL) antibody.

<400> 120

Arg Asp Tyr Arg  
1

<210> 121

<211> 96

<212> PRT

<213> Homo sapiens

<400> 121

Met Gln Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr  
1 5 10 15  
Pro Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg  
20 25 30  
Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln  
35 40 45  
Glu Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu  
50 55 60  
Lys Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg  
65 70 75 80  
Gly Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr  
85 90 95

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